

## Method of Payment

Registration Fee: \$125 per person. Pre-registration is preferred.

- Check Enclosed (payable to Purdue University)
- Company Purchase Order  
PO Number \_\_\_\_\_
- Credit card (VISA, MasterCard, American Express, or Discover. Please see registration form on reverse side for required credit card information)

Please mail or fax your registration to:

Nona Schaler  
CEC Business Services  
Purdue University  
Stewart Center, Room 110  
128 Memorial Mall  
West Lafayette, IN 47907-2034  
Phone: (765) 494-2756  
Fax: (765) 494-0567

For additional training questions, please contact Ethan Rogers at (317) 275-6817.

Purdue University is not responsible for cost due to cancellation.

Purdue University is an equal access and equal opportunity institution.

A Strong Energy Portfolio for a Strong America  
Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

CEC Business Services  
Purdue University  
Stewart Center, Room 110  
128 Memorial Mall  
West Lafayette, IN 47907-2034



## Process Heating Assessment

industrial training workshop



Calumet Conference Center  
Purdue University, Calumet  
2300 173rd Street  
Hammond, IN 46323-2094

July 26, 2006



U.S. Department of Energy  
Energy Efficiency and Renewable Energy  
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable.

## Overview

The U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy and the Industrial Heating Equipment Association are pleased to offer the Process Heating Assessment workshop. Students attending the one-day workshop will learn:

- How to improve energy efficiency and reduce emissions from furnaces
- Practical tips on process heating equipment operations and maintenance
- How to use PHAST software to assess energy consumption in furnace components

This workshop includes an introduction to process heating and process heating equipment such as furnaces, ovens, dryers, heaters, kilns, etc., used by the industry. It includes discussion of combustion and other heating methods, heat transfer in furnaces, heat containment, waste heat recovery, commonly used process heating controls, and emission reduction related to process heating.

Students will also learn how to use the Process Heating Assessment and Survey Tool (PHAST). PHAST can survey furnaces, identify major energy using equipment, prioritize improvement opportunities, and assess available methods that can be used to reduce energy consumption in an industrial plant.

Co-sponsored by:



Technical Assistance Program  
(TAP is a NIST MEP Network  
Affiliate)

## Agenda

8:00am - 8:30am Registration and Continental Breakfast

8:30am - 12:00pm Morning Session

- Introduction - Process Heating
- Basics - Combustion, Heat Transfer, and Emissions
- Opportunities for Efficiency Improvement
  - Heat Generation
  - Heat Transfer

12:00pm - 1:00pm Lunch (provided)

1:00pm - 4:00pm Afternoon Session

- Opportunities for Efficiency Improvement (cont.)
  - Waste Heat Recovery
  - Controls
- Data Collection Equipment
- Process Heat Assessment and Survey Tool (PHAST)
  - Presentation and Demonstration
- Discussion and Feedback

## Instructor

Dennis Quinn is a Senior Product Manager for Regenerative and Indirect Combustion Systems at The North American Mfg. Co. Ltd. With 25 years experience in the field of combustion research, product development, and business unit management while at North American, Mr. Quinn has spent extensive time on combustion applications over a wide range of industries. Mr. Quinn holds degrees in Combustion and Mechanical Engineering.

Optimize your process heating systems  
and reduce energy costs...

## Registration Form

Register early to ensure space - seating is limited!

Registration fee: \$125 per person. Please see reverse side for payment information.

First Name

Last Name

Title

Company Name

Street Address

City

State

Zip

Phone

Fax

Email Address

Credit Card Number (if paying by Credit Card)

Expiration Date

Signature

Internal Purdue University Training Reference  
Number: 3244NJS-A

## Accommodations

A block of rooms at the Marriott Courtyard has been reserved for this training for \$105 per night. Please call the hotel directly to make your reservations at 219-845-6350. Mention the Industrial Energy Services block to receive the discounted room rate.